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Anaconda Aluminum

by Sam Reynolds

The conifer trees — particularly the ponderosa pines, in the Columbia Falls area are dying.

They are hurt by many things, including the diseases, winter kill and insects which afflict trees everywhere.

But the overwhelming cause of their decline toward death is fluoride emissions from the Anaconda Aluminum Co. smelter three miles northeast of Columbia Falls. The fluoride accumulates in the needles, the trees eventually show various signs of approaching death, and then die.

The community faces a tough dilemma. The AAC smelter provides jobs for 988 persons with an annual payroll of over $9 million, and pays $1.5 million a year in taxes. If the entire plant or part of it should be closed to stop pollution, the economic impact on the entire Flathead region would be devastating.

And if the plant continues to operate as it is, the impact on the numerous pines in the Columbia Falls area also will be devastating.

The nature and extend of the damage is undergoing study by the company, by state air pollution control authorities, by the Forest Service, by Glacier National Park and, most notably, by Clarence C. "Clancy" Gordon, botany professor at the University of Montana in Missoula.

Gordon's Report

In a 20-page report sent this month to Ben Wake, state air pollution control director, Gordon said his researchers found that:

1. " . . . fluoride concentrations present in conifer needles are causing damage to the tissues. The damage apparent in the conifers surrounding the smelter is the consequence of fluoride effects on the plant tissues. These effects are also occuring in trees which as yet show no visible damage." Some of the contaminated trees not showing visible effects are in Glacier National Park.

2. "All lettuce samples, including two controls (lettuce gathered outside Columbia Falls in areas free of fluoride fallout), exceeded the FDA maximum of 7 ppm (parts per million) for lettuce in interstate commerce. Although a contributing factor, hydrogen fluoride from the Anaconda Aluminum Company smelter is not the sole source of fluoride in the lettuce collections." Considerable fluorides come from fertilizers, the report said.

3. "The highest concentration of fluoride in the grasses was in the sample from the grounds of the Hungry Horse News in Columbia Falls. The use of fertilizers must be considered as one possible source in this sample."

Grasses around the smelter, gathered from fields where fertilizers probably are not used, also show heavy fluoride content. "In five of the seven grass samples, the state maximim limit of 35 ppm fluoride in forage is reached or exceeded," the report says.

4. "The concentration of flouride in femurs of rodents trapped on the southwestern slope of Teakettle Mountain are evidence that the environment in which these animals live is heavily contaminated with fluorides," the report states. Teakettle Mountain rises directly east of the smelter.

The report notes that a rabbit feeding study, in which one group of rabbits was fed lettuce from Columbia Falls and another group lettuce from the Missoula Botany Garden, produced disappointing results. The fluoride content of lettuce from both sources was high, and the laboratory testing techniques imperfect, the report says.

Gordon's report notes that lack of funds prevented full analysis of the rodents trapped. In the future, " . . . analysis of the total (rodent) collection must be made and more extensive collection made of grasses, conifers, and garden vegtables. Femurs from several deer from near the smelter are to be analyzed this winter when conditions permit collection of the animals and the results will be relayed (to Wake) upon receipt."

Gordon said the analyses of his samples were made by the Wisconsin Alumni Research Foundation (WARF) laboratories. WARF is headquartered in Madison, Wis.

All parties concerned with fluoride contamination in the Columbia Falls area agree on one thing: That lots more research must be done to determine the extent of existing damage and what possible future damage might occur to trees, forage, livestock, wildlife and human health.

Invisible in Glacier

The fact that damage to pines is occuring is no longer debated. Debate centers on the extent of damage. On Nov. 24 an official statement by the Anaconda Aluminum Co., issued under the name of Richard B. Steinmetz Jr., AAC vice president, said that visitors to Glacier National Park east of the smelter "will

On an October day last year the U.S. Forest Service's Glacier View Ranger Station proved interesting to visit from two angles — a small mugho pine planted to beautify the station's entrance way, and a letter produced inside the station.

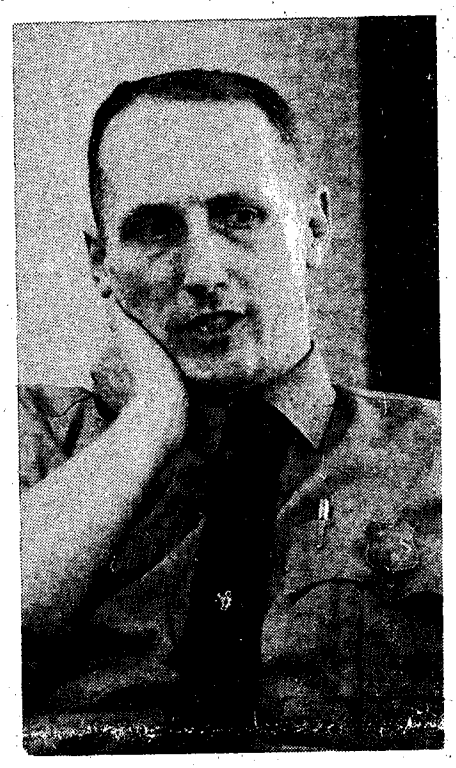
The mugho pine is visibly dying from, Gordon said, fluoride pollution.

The letter was dated Oct. 1, 1969 and was by John A. Urlich, timber staff officer of the Flathead National Forest. It concerned an aerial reconnaissance of smelter fume damage to Forest Service land, and said:

"We estimate that approximately 1,100 acres have been heavily damaged primarily on the west side of Teakettle (Mountain). An additional 1,900 acres of Forest Service land is showing light visible damage on the east side of the mountain. Mortality is very evident in the area that shows heavy damage."

When reading about such acreage one should bear in mind that researchers have found that invisible fluoride damage extends TWICE as far as visible damage.

Henry E. Hays, Glacier View head ranger, said that damaged Forest Service timber on the west side of Teakettle Mountain is not commercially merchantable anyway. Timber on the east side is merchantable, though not yet ready for harvest.



Ranger Hays

Hays said that the Forest Service has not faced a timber loss quite like this one in the past, and may decide to write off the loss, much as it writes off losses to fire, insects, winter kill or disease.

Earlier that day Clancy Gordon, looking up at the poisoned stumps of Forest Service trees on Teakettle Mountain, remarked that, "If an insect did that to Forest Service land, they'd spray it tomorrow."

But all that was last October. Since then there has been some hint that the Forest Service might take legal steps to recover damages on the public timber losses involved.

Smelter's Problems

AAC officials, while still stoutly (and correctly) denying that Glacier National Park timber shows visible signs of fluoride poisoning, are themselves visibly worried about all the uproar.

In the old days, a source said, aluminum makers customarily bought a big circle of land around their smelters. That cut down on the number of people upset by dead and dying vegetation and other annoyances.

The AAC initially did buy lots of land around its Columbia Falls smelter, and still occasionally makes a purchase. The Hungry Horse News on Dec. 12 carried a story saying the AAC had bought a Christmas tree plantation six miles away from the aluminum smelter. The trees had been damaged by fluoride pollution, the plantation's manager was cited as saying.